Virginia Saltwater Development Fund
Evaluation of a Proposal for the Development of a Research or Data Collection Project

Project Number: 0409-17 **Date:** Aug 31, 2009

Title: Q) 2009 Trophic Position and Ecological Function of Juvenile Menhaden in Chesapeake Bay

> "The Virginia Saltwater Recreational Fishing Development Fund is to be used solely for the purpose of conserving and enhancing finfish taken by recreational anglers, enforcing laws related to natural resource conservation, improving recreational fishing opportunities, obtaining necessary data and conducting research for fisheries management, and creating or restoring habitat for species taken by recreational fishermen."
>
> Code of Virginia, Section 28.2-302.3

NOTE: Please read the entire scoresheet before beginning, then provide comments, and circle ( ) the appropriate score for each item. Thank You.

A. Problem Description and Resolution (20 points)

1. Comment on the adequacy of the problem description, background information, knowledge of available literature/data sources, and anticipated benefits.

This proposal seeks to examine the feeding ecology of juvenile Atlantic menhaden in Chesapeake Bay. The interest in ecosystem-based approaches to management within the bay region and elsewhere necessitates a more thorough understanding of predator prey interactions. The problem is well described, motivated from relevant literature, and has potential to provide valuable data that can be used to parameterize models designed to address key ecological questions.

2. Describe your views on the conceptual approach to solve the problem.

The conceptual approaches proposed to address the stated objectives appear to be appropriate.

SCORE (Circle one)	Poor				Excellent
	0	5	10	15	(20)

B. Soundness of Project Design/Technical Approach (25 points)

1. Is there sufficient information to technically evaluate the proposal?

There is adequate technical information to evaluate the proposal. Most trophic interactions studies utilize a single approach, usually diet composition analysis or stable isotopes. A strength of this proposal is the use of multiple approaches for diet analysis, particularly since diet composition and stable isotope data generally support different types of inferences (e.g., immediate prey consumption vs. longer term prey assimilation).

2. What are the strengths/weaknesses of the project design (thoroughness, practicality, methods, integration with other work, etc.)?

Two concerns are listed below:

i) Although reliance on MDDNR and sampling platforms at VIMS (e.g., juvenile trawl survey, seagrass sampling, etc.) for samples is cost effective, each of these programs is based on a different statistical design. For example, the MD seine survey is based on a fixed station design while the VIMS juvenile trawl is based on a random stratified design. How will the menhaden and water samples from these programs be integrated, and what is the scope of inference for the study? That is, will inferences regarding menhaden diet be restricted to the sampling frames of each program or will they be combined to make statements about menhaden diet throughout the bay?

ii) While the concurrent collection of predators (menhaden) and prey (plankton) is important to address the stated objectives, presumably the turnover rates of isotope signatures within plankton are much faster than those within menhaden. It is therefore reasonable to assume that the isotopic signatures in menhaden may be based on broader suite of prey species and water quality characteristics than would be sampled by single point collections of water. The potential for temporal variability in prey isotopic signatures can affect inferences regarding diet derived from the menhaden isotope data, yet the investigators do not address this potential problem in the proposal.

SCORE (Circle One)	**Poor**					**Excellent**
	0	**5**	**10**	**(15)**	**20**	**25**

C. Project Management and Experience/Qualifications of Personnel (15 points)

What is your opinion of the experience and capabilities of the Principal Investigator(s) to manage and conduct the work, the availability of facilities, and education and experience of assisting personnel.
The investigators are highly qualified and have significant experience conducting the type of research described in the proposal.

SCORE (Circle one)	Poor			Excellent
	0	5	10	(15)

D. Project costs (15 points)

Is the budget realistic and reasonable? Indicate any unreasonable costs.
The budget seems reasonable for the proposed work.

SCORE (circle One)	Poor			Excellent
	0	5	10	(15)

E. Value of the Project to Fisheries Managers (25 points)

Do you believe the results of this project will further management of the species described? Will the results be useful to managers?
As with many projects that are research oriented, the benefits for fishers are not always immediately realized. This proposal addresses important questions regarding the role of Atlantic menhaden as a filter feeding species in Chesapeake Bay. The results of this project would provide valuable data in support ongoing but somewhat longer term food web modeling efforts designed to support ecosystem-based approaches to management.

SCORE (circle one)	Poor					Excellent
	0	5	10	(15)	20	25

PLEASE ADD ANY FURTHER COMMENTS ON THE PROPOSALS BELOW: